DOCUMENT RESUME

ED 372 266 CE 066 890

AUTHOR Smithers, Alan
TITLE All Our Futures: Britain's Education Revolution. A Dispatches Report on Education.
INSTITUTION Broadcasting Support Services, London (England).; Manchester Univ. (England).
REPORT NO ISBN-1-851144-084-4
PUB DATE 93
NOTE 47p.; Funded by the Gatsby Charitable Foundation. Photographs may not reproduce adequately.
AVAILABLE FROM Channel 4/Broadcasting Support Services, P.O. Box 4000, London W3 6XJ, England, United Kingdom (first copy free; additional copies 1 British pound).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Education; *Change Strategies; Comparative Analysis; *Educational Change; Educational Practices; Educational Quality; Educational Trends; Elementary Secondary Education; Employment Qualifications; Evaluation Criteria; Foreign Countries; Program Effectiveness; Standards; *Student Evaluation; *Vocational Education
IDENTIFIERS Europe; *Great Britain; *National Vocational Qualifications (England)

ABSTRACT

A study examined vocational and general education in Great Britain 2 years after a national commission on education issued its recommendations for reforming Britain's system of elementary and secondary education and training. Several concerns were raised regarding the content and application of the National Vocational Qualifications (NVQs) and General National Vocational Qualifications (GNVQs). The concerns were discussed within the context of one local education authority. The need for educational reform was discussed from the standpoint of domestic problems and promising European solutions. It was concluded that, rather than helping, many reforms are actually threatening the future of applied education. It was recommended that awarding bodies be immediately allowed to develop syllabi specifying what is to be learned and assessed and thereby provide a common point of reference for students, teachers, and examiners. The following actions were also recommended: encourage the National Council for Vocational Qualifications and government collaborate to decide the purpose of the GNVQs; have employers, employees, and educators reassess the content of the NVQs and GNVQs ; and include written examinations in the assessment of NVQs and GNVQs. (Contains 23 references.) (MN)

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ALL *OUR* FUTURES

BRITAIN'S EDUCATION REVOLUTION

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A DISPATCHES REPORT ON EDUCATION

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BRITAIN'S EDUCATION REVOLUTION

A DISPATCHES REPORT ON EDUCATION

CHANNEL FOUR TELEVISION

Padraig Boyle

ACKNOWLEDGEMENTS

The Centre for Education and Employment Research is very grateful to Channel 4 for commissioning this inquiry and to the Gatsby Foundation for providing the funding.

The work was carried out by a large and enthusiastic team. Elaine Williams, the principal researcher, collected and tested much of the evidence, and co-ordinated the qualification and country experts. In considering NVQs we benefited particularly from the expert advice of Steve Stone, a member of the Institute of Plumbing and a lecturer at Bristol's Brunel College, and Cyril Golding, newly-retired from the School of Engineering in the North East Wales Institute. In looking at GNVQs we were greatly helped by Dr David Collier, Chairman of the National Association for Business Studies Education and Faculty Director of Business and Hospitality at Wakefield College, and Colin Whitfield, County Inspector for Design and Technology in Surrey.

In Holland, Germany and France we were put on the inside track by respectively Drs Elly de Bruijn of the Centre for Educational and Pedagogical Research, University of Amsterdam, Dr Karin Wagner of the Technical University, Berlin and Jean-Michel Mertz, Chargé de Mission, Académie de Strasbourg.

Dr Pamela Robinson and Joanna Bragg, core members of CEER, played an invaluable part in drawing the findings together and Anne Moores, our secretary, in making them presentable.

Many individuals and organisations too numerous to name were generous in providing information and in giving their time to help us to come to a considered view.

To all who helped a big "thank you".

Alan Smithers

Alan Smithers
University of Manchester

PREFACE

By this Autumn two years will have passed since the Channel 4 Commission on Education reported. In *Every Child in Britain* a group of leading academics, who spanned the political spectrum, described how the British education system could be reformed to serve everyone and not just the select few as at present.

The Commission recommended a return to basic competence in literacy and numeracy in primary school; a slimmed-down national curriculum for the first three years of secondary schooling; and a return to whole-class teaching of children of similar ability.

From the age of 14 it advocated three distinct but inter-connecting pathways:

THE ACADEMIC, BASED ON CLUSTERS OF GCSEs AND A-LEVELS;

THE TECHNICAL, WHICH WOULD RETAIN ACADEMIC RIGOUR COMBINED WITH COURSES ON MAKING AND DESIGNING THINGS AND BEING GOOD WITH PEOPLE;

THE VOCATIONAL, BASED ON OCCUPATIONALLY-SPECIFIC COURSES WITH WORK EXPERIENCE, COMBINED WITH A GENERAL EDUCATION OFFERING CLEAR STANDARDS.

The technical and occupational pathways would require written as well as practical examinations and would involve independent, external assessment. Whichever path was chosen children would have to demonstrate they had first met minimum standards across a whole range of subjects.

These recommendations derived from research evidence and the observation that in European education and training systems high quality practical courses could encompass theoretical rigour to raise standards for the majority.

Many of these recommendations have been influential. Sir Ron Dearing, Chairman of the School Curriculum and Assessment Authority, in his review, has responded to the calls for a return to basics and a slimming-down of the curriculum. The Government's inquiry into primary education, the so-called "Three Wise Men"report, recommended a shift from project work to direct teaching. The Government has been aiming to see developed post-16 three pathways, not very different from those proposed by the Commission. Dearing is consulting on pathways post-14.

Does this mean that we are now well on course for education for the majority? Although the Commission's recommendations seem to have been accepted in broad outline, considerable disquiet has been expressed over the details of some aspects of their implementation. In particular, a number of questions have been raised about the value of the new vocational qualifications.

Channel 4 with the support of the Gatsby Foundation therefore commissioned this report from the Centre for Education and Employment Research (CEER) at the University of Manchester to examine what is happening. The findings are disturbing. They suggest that far from becoming world leaders in education and training as is sometimes claimed, Britain is in danger of falling even further behind. The report concludes that instead of solving the acknowledged problems some of the changes threaten a "disaster of epic proportions".

THEY ARE CONCLUSIONS WHICH SHOULD WORRY EVERY ONE OF US.

Padraig Boyle

CONTENTS

1	EDUCATION FOR EVERYONE	6
2	CAUSE FOR CONCERN	9
3	A LOCAL EXAMPLE	13
4	THE NATIONAL COUNCIL FOR VOCATIONAL QUALIFICATIONS	16
5	NATIONAL VOCATIONAL QUALIFICATIONS	20
6	DOMESTIC PROBLEMS	22
7	EUROPEAN SOLUTIONS	25
8	GENERAL NATIONAL VOCATIONAL QUALIFICATIONS	31
9	APPLIED EDUCATION AT RISK	35
10	LESSONS FROM ABROAD	36
11	LEADING OR FALLING BEHIND?	40
12	RECOMMENDATIONS	42
	NOTES	44

EDUCATION FOR EVERYONE

1.1 A severe weakness in the UK's education record is the way it has served the select few rather than everyone. Education for the majority has been bolted-on to an academic fast-track. A minority (now about one in four but formerly many fewer) is picked out by competitive examinations at the ages of 16 and 18 to go on to university. Rigorous selection has made possible universities which educate to a high standard in a short time with few drop-outs[1].

1.2 But selection of the few has implied the near rejection of the large majority. Many with talents valuable in themselves and vital to the economy become disillusioned long before the end of compulsory schooling and some express their feelings through disruptive behaviour and truanting.

1.3 It has also led to a wide divergence between the educational achievements of British[2] young people and their counterparts in other Western European countries. In 1990/1, only 27 per cent achieved GCSE at grades A-C in English, mathematics and science compared with 62 per cent in Germany and 66 per cent in France reaching a similar standard; only 29 per cent obtained the equivalent of two A-levels as against 68 per cent in Germany and 48 per cent in France[3].

1.4 In those countries young people are offered different routes to educational achievement. From about the age of 14 they are given the choice of either continuing purely academic studies or moving to vocationally-based courses which lead to real rewards. These courses are designed:

- **To use basic practical work to teach personal qualities such as precision, perseverance and patience, seen as essential for success of any kind;**
- **To provide planned studies of sufficient practical, theoretical and academic rigour to allow subsequent occupational flexibility (50 per cent of German young adults work outside the specific occupations for which they have been trained);**
- **To use vocational motivation to achieve much higher academic standards than would be otherwise achieved, seen as essential to provide both occupational and educational flexibility later on.**

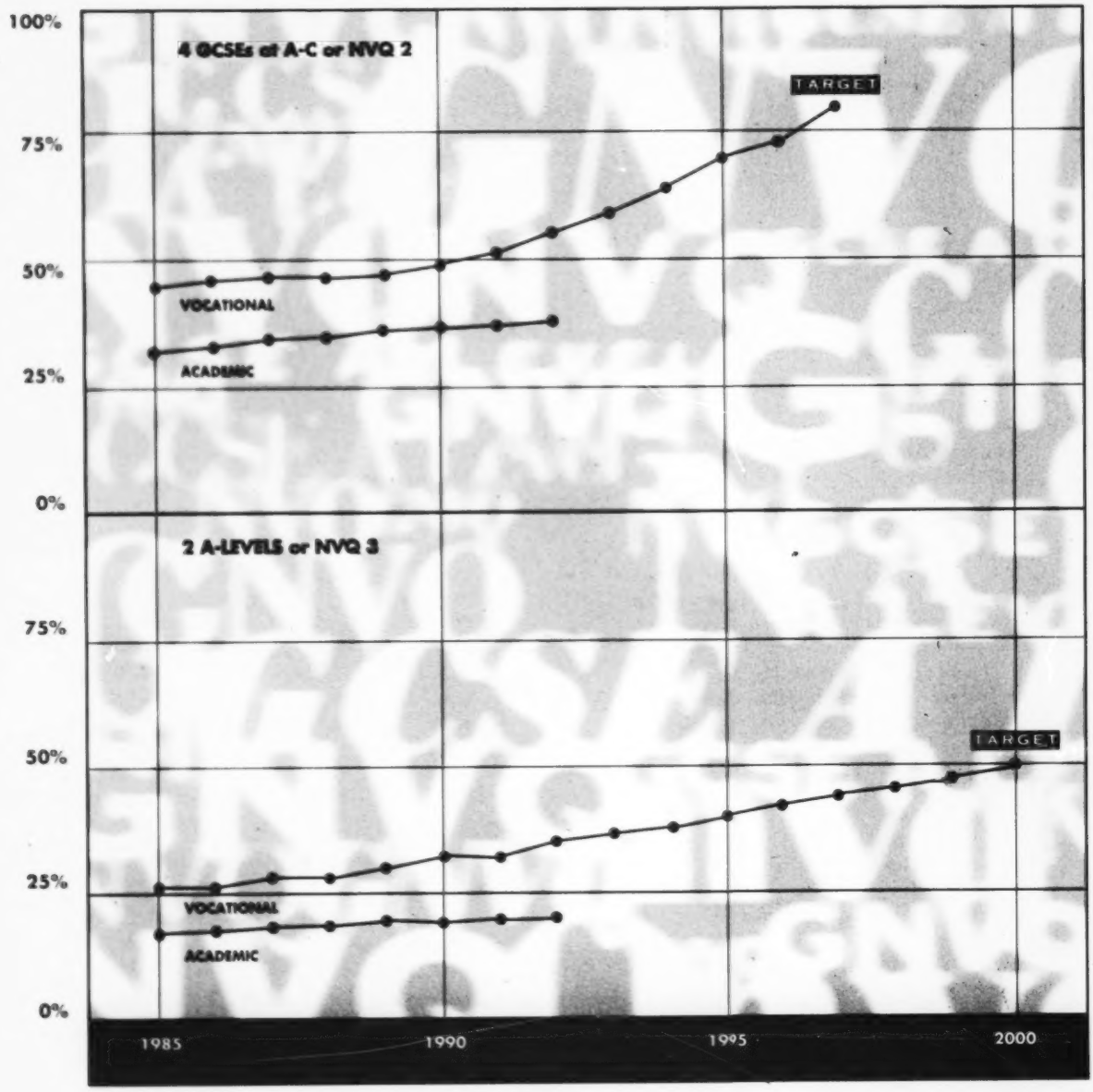
1.5 By contrast, in Britain, the importance of the academic ladder has been such that the main basis for "choosing" vocational courses has been academic failure, and inevitably they are seen only as a poor second best. It is perhaps not surprising that two-thirds of the British workforce lack not only vocational qualifications but the academic achievement that accompanies such qualifications elsewhere[4].

1.6 The Government has recognised the problem and has launched an ambitious – but little noticed – programme to raise educational attainment[5]. It plans to ensure that by 1997, 80 per cent of young people achieve four GCSEs or their equivalent. By the year 2000, it plans that 50 per cent should achieve two A-levels or their equivalent. Figure 1 shows that these targets imply steep improvements.

1.7 The Government has accepted that transformation on this scale cannot be achieved through the traditional academic route of A-levels which they believe inappropriate for the majority of young people. Instead, accepting Britain must follow European practice, they have begun introducing two new vocational pathways.

1.8 The National Council for Vocational Qualifications (and an equivalent body in Scotland) has been given responsibility for the detailed implementation of the policy. The Council's task is enormous: if the targets are to be met, it will become responsible for the ultimate educational achievement of about three-quarters of our young people. Yet few have even heard of the NCVQ, let alone understand its now crucial role in shaping the future of British education.

FIGURE 1: NATIONAL EDUCATION AND TRAINING TARGETS



Source: *First Annual Report on National Education and Training Targets*, March 1993.

FIGURE 2: EQUIVALENCE OF VOCATIONAL AND ACADEMIC QUALIFICATIONS

NVQ LEVEL	GNVQ LEVEL	EQUIVALENCE
5 (Professional, Managerial)		
4 (Higher Technician, Junior Management)		} Higher Education
3 (Technician, Supervisor)	Advanced	2 GCE A-levels
2 (Craft)	Intermediate	4 GCSEs, A-C
1 (Foundation)	Foundation	Other GCSEs

Source: Smithers and Robinson (1993). *Changing Colleges: Further Education in the Market Place*. London: The Council for Industry and Higher Education.

1.9 The Council was set up by the Department of Employment in 1986 to bring cohesion to the jungle of vocational qualifications that existed. Its original brief was to incorporate them into a structured framework, offering clear, progressive pathways. It has sought to do this by establishing five levels, all called National Vocational Qualifications (NVQs), which have been deemed to be equivalent to academic qualifications as shown in Figure 2. In July 1993, the Government formally identified NVQs as "the vocational route mainly for those who have left full-time education"[6].

1.10 In 1991, Kenneth Clark, then Secretary of State for Education, further extended the role of the NCVQ by asking it to devise and introduce General National Vocational Qualifications (GNVQs) to provide an alternative ladder to GCSEs and A-levels. GNVQs are intended to offer an applied education focused on a particular occupational area and leading to either higher education or directly into employment. Five pilot GNVQs (in art and design, business, health and social care, leisure and tourism, and manufacturing) were introduced in September 1992 and altogether 14 are planned.

1.11 In July 1993 the Government formally identified GNVQs as the vocational route mainly for those in full-time education and described advanced GNVQs as "vocational A-levels". GNVQs currently come at three levels and their intended equivalence to NVQs and academic qualifications is shown in Figure 2. They are proving popular, with some 70,000 young people already pursuing these courses of whom up to about 60 per cent are likely to want to go on to higher education.

1.12 There are thus to be three broad pathways of qualifications: the academic, NVQs and GNVQs. All are aimed at high attainment. The Government must be applauded for its bold approach to long-standing problems. Its recognition of the need for the new vocational pathways is to be welcomed as is the broad outline of the pathways themselves. Yet there are real fears that there are deep flaws in the detail of what is being attempted. The nature of the new qualifications and the speed with which they are being pushed through are giving rise to profound concern.

CAUSE FOR CONCERN

2.1 The root of the problem is that in seeking to develop an education which is distinctively practical the National Council for Vocational Qualifications has departed from established educational practice. It has insisted that students should be assessed solely on what they can do rather than including also what they know and understand. Some of the worrying features of the new vocational qualifications are identified in Box A below.

BOX A

NVQs AND GNVQs - SOME RESERVATIONS

Schematic framework derived from behavioural psychology ruthlessly applied

Unfamiliar jargon not readily understood by students, teachers or employers

No syllabus

No specified courses or time limit

Student-centred learning

No compulsory written exams for NVQs

Underpinning knowledge and theory not separately tested but inferred

One-to-one continuous assessment when candidate deemed ready

Bureaucratic procedures

All existing vocational qualifications to be replaced including BTEC "Nationals" and City and Guilds craft certificates

2.2 The emphasis has been on setting out schematically "performance criteria" and "range statements" rather than simply listing what is to be learned. It has been assumed that if students can show themselves capable of carrying out specified tasks, the necessary knowledge and understanding must have been acquired also and need not be separately assessed.

2.3 While many countries are placing increasing emphasis on what students can actually do, in Britain, under the NCVQ, the approach has been taken much further than anywhere else. The result has been hardly noticed by the public or even the media, but can truly be described as extraordinary.

2.4 Teachers preparing students for NVQ and GNVQ qualifications have been given little or no guidance as to what it is they should actually teach. They have been given no syllabus. Indeed the notion of a syllabus is seen as antipathetic to the spirit of NCVQ. Instead teachers have been given lists of what students should be able to do after completing the qualification. In the case of NVQs, these lists can run to hundreds of individual tasks. Competent performance is assumed to be the sum of numerous separate "competencies".

2.5 Because the emphasis is on what students can do, rather than on what they know, teachers are discouraged from teaching in a conventional sense. Instead, both NVQs and GNVQs are based on student-centred learning. Students are given the responsibility of accumulating portfolios of evidence to show they are capable of carrying out the tasks specified.

2.6 Similarly, because of the disregard amounting to disdain for "knowledge", there are no conventional written examinations. Indeed in the case of NVQs, there are no compulsory written tests at all. Instead occupations have been broken down into numerous individual

tasks which are assessed on a *one-to-one* basis. Assessors (usually the students' supervisors) must sign their names hundreds of times to certify students can carry out the tasks specified.

2.7 Because what should be taught and how students should be assessed is unclear, a new industry of consultants and trainers has come into being to interpret the approach and induct employers and teachers. To carry out the assessments, a new bureaucracy has been created consisting of, among others, "national chief verifiers", "principal verifiers", "external verifiers", "internal verifiers" and "assessors". A great deal of time is being spent filling in forms and ticking boxes.

2.8 In the case of GNVQs, the new "vocational A-levels", the assessment process has also taken an extraordinary form. NCVQ wanted to leave assessment to teachers. The Department for Education however insisted on external tests. The result has been a bizarre and unsatisfactory compromise. NCVQ declared that there should be no syllabus for the tests, that they should be available on demand (later modified to four times a year) and that the passmark should be 80 per cent (later reduced to 70 per cent). NCVQ's reluctance to accept external assessment means that although students must pass the tests to get a GNVQ, the marks gained do not count towards the grade awarded. Indeed, NCVQ opposed the notion that GNVQs should be awarded at the different levels of pass, merit and distinction.

2.9 Not surprisingly with minimum guidance as to what students should learn and teachers should teach, and with a high pass mark, failure rates among first-time takers have been high. In the case of some modules it has been 100 per cent. Most students have had to take a test several times, on the first occasion seemingly to discover what the syllabus is – officially not there but of course necessary to set the test. The difficulties experienced in the "pilot year" however, were never communicated to the tens of thousands of young people who have been persuaded the new courses provide a new and exciting alternative to A-levels.

2.10 In the meantime, well-known and respected qualifications such as BTEC certificates and diplomas and City and Guilds craft and advanced craft awards are being replaced by the new NVQs and GNVQs. Although many within the three main examining bodies, the Business and Technology Education Council (BTEC), City and Guilds of London Institute (CGLI) and Royal Society of Arts Examining Board (RSA), privately express considerable alarm at what is happening, the organisations themselves feel constrained in expressing public criticism because they believe their commercial survival depends upon marketing the new qualifications to as many students as possible.

2.11 Few are aware of the new revolution transforming education for the majority in Britain or the unconventional approach now being adopted. Even fewer are aware that many involved in this revolution, often by circumstance rather than desire, are expressing grave reservations (see Box B). They fear the new system, far from raising the profile and establishing the credibility of vocationally-based education, may discredit it further.

2.12 This report, which seeks to place the new system under the spotlight, believes these fears should be openly debated in a language all can understand. The future of the majority of our young people, who will become our labourers, tradespeople, carers, technicians, managers and executives, depends on the new qualifications being appropriate and effective in raising standards everywhere in our society. The education revolution will affect the quality of all our lives.

BOX B

SOME CONCERNS

"Employers and members of the public are being failed. In a nutshell we would like those things which Ford does in the way of training, which are purposeful and sensible and go beyond an end-of-the nose vision, to have credibility and to become part of the NVQ framework. Our apprenticeship programme has external validity and is understood, and yet we are having to spend a disproportionate amount of time and money trying to clear the NVQ hurdle, we are having a go through a heavy routine to achieve the Holy Grail."

BERNARD TYLER, FORD

"Electrical contractors want to keep the gradings of pass, merit, distinction. City and Guilds are happy with that. But NCVQ won't accept it because, in their view, it indicates a less-than 100 per cent competence. With all due respect we are dealing with a lethal commodity here (electricity) and we must make sure that when a young person is deemed to be competent, it means they have achieved more than just remembering something for a short period and then moving on. Retention and understanding are crucial for this industry. We take our outstanding trainees beyond the traditional part two examinations to the City and Guilds 'C' technician course. This requires about £5,000 per candidate. The old grading system indicated clearly which were worth this investment, but the new schemes will make it difficult to distinguish an outstanding trainee from an average or poor one."

ALAN WALKER, NG BAILEY & CO LTD

"Our business with NVQs is assessment on standards. We recognise we have to introduce a greater degree of knowledge-based assessment. Everybody knows that employers are concerned that the full knowledge requirement is not being tested on outcomes assessment alone. This has been raised with NCVQ."

ANDREW SICH, CITY AND GUILDS

"The Council is concerned about the lack of mathematics and physics in the proposed Engineering GNVQ. There is a lot of emphasis on personal skills and this is important, but there must be technical expertise as well. Technology lost this core in the national curriculum and became a worthless subject. The same thing is in danger of happening to the GNVQ."

DR JOHN WILLIAMS, THE ENGINEERING COUNCIL

"The Institute believes that the science GNVQ needs to provide clearly a statement of what levels of knowledge and understanding are required to represent progression from national curriculum science. The units neither individually nor as a whole secure that coherence and continuity. The Institute has appealed directly to the Government to delay implementation. It feels that the launch of an ill-conceived scheme, even on a pilot basis, will have a seriously detrimental effect on the future standing of this important qualification."

KATHY WILSON, INSTITUTE OF PHYSICS

"For a number of reasons we need GNVQ. As things stand at the moment it has its virtues but it also has its deficiencies. We have to put an awful lot of work into refining it. One of the characteristics we worry about is: how far is this school doing this because it's fashionable, because it's a bandwagon, because it's the way you keep your numbers up? I'm not a mindless supporter of it but I'm not going to kick it where it really hurts because I think we need it and I think it's moving."

MALCOM DEERE, STANDING CONFERENCE ON UNIVERSITY ENTRANCE

• **An authority committed to vocational pathways: Barking and Dagenham Town Hall.** *Padraig Boyle*

A Local Example

3.1 In a development with important educational and political implications, a Labour authority, the London Borough of Barking and Dagenham, responding to its teachers, has committed itself to the Government policy of introducing vocationally-based pathways in a number of its schools. However the contrast between how the Authority would wish to implement this policy and how the Government is allowing the National Council for Vocational Qualifications to implement its own policy, is instructive.

3.2 In the recent past Barking and Dagenham, while among the top ten spending authorities on education in the country, had the unenviable distinction of sharing with Knowsley in Liverpool, the worst results among all 117 Local Education Authorities. Key personnel were changed in 1990. Rigorous school inspections were introduced and a development programme launched. Barking and Dagenham is now among those with the fastest improving examination results.

3.3 Under chief education officer, Alan Larbalestier and principal inspector, Roger Luxton, the Authority has spent two years studying schools in Denmark, Holland, Germany, Switzerland and France. With financial help from the Gatsby Foundation, half of the Authority's secondary head teachers and over 50 senior staff and classroom teachers have taken part in the research visits.

3.4 The visits have led these experienced teaching staff to conclude that levels of academic attainment are significantly higher in the foreign schools visited, with pupils commonly two or three years ahead of their British counterparts. Some of their comments are given in Box C (see page 14). The Authority believes there are clear reasons why this should be so and that they have much to learn. They have identified the following:

- **Pupils of similar abilities and interests are grouped together, making it easier for both them and their teachers;**
- **Courses are set out in great detail, teachers know exactly what they are supposed to teach, and pupils exactly what they are supposed to be learning;**
- **Academic content is often linked to and taught through practical and vocational courses, making it relevant to pupils;**
- **There are excellent textbooks designed specifically for each course which set out its content in great detail; again these tell pupils, and their parents, exactly what has to be learnt, allowing slower pupils to catch up at home, often with parental help;**
- **High quality teaching and direct instruction; freed from the constant necessity to design courses and draw up teaching materials, continental teachers are able to concentrate on teaching; whole class teaching, unfashionable in Britain, was observed in every country visited and carried out to very high standards with the active involvement of pupils in taking lessons forward, extensive use of demonstrations by teachers and a clear pattern to each class with conscious peaks and clear conclusions;**
- **A constant demand, in both academic and practical subjects, for precision, exact working, and perseverance; with considerable importance given to the teaching of basic practical skills to inculcate these qualities;**
- **The provision made for young people on the continent, from about the age of 14, to choose between academic, technical or occupational courses, all involving rigorous academic attainment and leading to highly regarded qualifications.**

BOX C

Barking & Dagenham's Observations on European Education

•Standing, left to right: Tim Faiers, Mark Lloyd and Justin Donovan. Sitting, left to right: Kevin Wilson (Deputy Head of All Saints) and John Torrie. *Padraig Boyle*

"There is no doubt that the quality of lessons in both German and French schools that I observed was very impressive. Teaching seems to be a simple sort of job on the continent. People seem to have an accepted body of knowledge."

Tim Faiers, Deputy Head, Eastbury

"Teachers were effective in their teaching. They were the focal point all the time. The students were focusing on the teacher and the teacher was drawing out of them a whole range of issues by very careful, planned questioning."

John Torrie, Head, Dagenham Priory

"We've been down the DVE (Diploma for Vocational Education) route in this school, we've been through it with CPVE (Certificate of Pre-Vocational Education), but they have never motivated pupils because pupils know they are soft-options. Employers know this too. They are not interested in CPVE and DVE. We would love to throw it all up into the air and start with genuine vocational pathways. The GNVQ is laudable in its intent, but will they get it right in a meaningful way? If they don't, then pupils will not be motivated."

Mark Lloyd, Deputy Head, Barking Abbey

"I have seen mathematics formally taught in Holland. The pupils were studying ratios and the classroom teacher linked it to compound gears to give pupils something to hang on to. But these weren't contrived links. In England we tend to do investigation and theory all in the same room and at the same time. But to build up skills there has to be practical work, backed up by theory. And skills need to be built up through repetition, not through experimental work where children brush across a topic, never to meet it again."

Justin Donovan, Senior Inspector

3.5 A report, *Educational Pathways at 14-Plus: The Key Issues* , has been sent to Sir Ron Dearing to be considered in his review of the national curriculum. The report outlines proposals for raising academic standards in basic core subjects by making available clear academic, technical and occupational pathways to pupils from the age of 14.

3.6 Barking and Dagenham's proposals involve offering 14-year-olds the opportunity to switch, if they so wish, to new technical and vocational courses. The vocational scheme would involve pupils spending half their time taking English, mathematics, science, a modern language and at least one other GCSE, keeping open the option of moving on to GCE A-levels. The other 50 per cent of the time would be spent preparing to a high standard for one occupation, such as catering or motor vehicle maintenance. As far as possible the academic subjects would be linked to, and taught through, the occupation being studied. Pupils choosing the technical pathway would follow a similar pattern, but instead of pursuing just one occupation, would study a cluster of theoretical and practical subjects applied to a chosen occupational area. The Authority would develop consortium arrangements between schools to allow specialisation.

3.7 The initiative is, however, still at the planning stage. The Authority has not been able to implement it partly because of the constraints of the national curriculum but more importantly because of the lack of suitable qualifications. It has discussed its requirements with a number of examining bodies like the City and Guilds of London Institute, the most experienced provider of craft awards, and has even gone as far afield as the Welsh Joint Examinations Council looking for suitable GCSEs which might be used. It argues the lack of appropriate qualifications "is the greatest single obstacle to the introduction of pathways post-14".

3.8 In its report to Sir Ron Dearing, the Barking and Dagenham Authority calls for qualifications which:

- **Are nationally recognised as being of a reliable standard irrespective of where or in what subject awarded;**
- **Offer progression to the next level of qualifications and to higher education;**
- **Have requirements and methods of assessment that are known and understood and seen as valid by pupils, parents and employers; in particular the language describing the courses and assessment procedures must be clear;**
- **Are valuable in their own terms rather than relying on spurious claims of equivalence or comparability with other qualifications of higher current status;**
- **In practical and technical areas, emphasise making to high standards leading to practical outcomes of recognisable quality;**
- **In vocational areas, not only focus on the specific skills, but demand theoretical knowledge and continuing general education to a high standard.**

The Authority also says whole class teaching and direct instruction must not be rejected as "traditional and implicitly out of date". It argues continental teaching "is based on direct instruction whichever pathway is being pursued" and that "a great deal of research into the effectiveness of whole class teaching over the last 20 years has been largely ignored in this country". As a result it believes many post-14 British students, particularly those in practical, technical and vocational areas, have been offered a form of teaching "that is least suited to their abilities". It adds: "we wonder about the value of the GNVQ approach which, yet again, points away from direct instruction".

3.9 In both the qualifications Barking and Dagenham is looking for and in the style of teaching it wishes to promote, the Authority runs directly counter to the approach being pursued by the National Council for Vocational Qualifications. For this reason, while welcoming both the Government's introduction of pathways and new vocational awards, the Authority is unhappy with the qualifications as they are currently constituted since they appear to offer little or nothing to its young people; certainly not enough to bring them anywhere near the academic standards being reached by their continental counterparts.

The National Council for Vocational Qualifications

4.1 The National Council for Vocational Qualifications – little known but now playing a crucial role in reshaping British education – proudly claims what it is doing will send "shock waves through the whole system". (see Box D)

4.2 The Council has developed from the days when Margaret Thatcher, unhappy with the narrowly-focused Department of Education and Science, set up the Manpower Services Commission (MSC) under the Department of Employment to bypass entrenched views and push through employment-based reforms of youth training. From this followed the Youth Training Schemes (YTS) and the school-based Technical and Vocational Education Initiative (TVEI). The latter spent £900 million on encouraging "practical learning" in schools, with pupils learning "by doing" and "by being given real tasks to perform". It also encouraged a big investment in information technology in schools. Some good work was done, but it is now widely accepted that TVEI achieved little of lasting value.

4.3 The National Council for Vocational Qualifications was set up in 1986 by the Department of Employment to create a coherent vocational framework into which existing vocational qualifications could be fitted and which would reveal any significant gaps. It drew some of its staff and much of its philosophy from the Manpower Services Commission. The Council's present deputy director and the leading proponent of its philosophy*, Dr Gilbert Jessup, came to the NCVQ from the MSC where he was involved with issues of standards, assessment and certification in youth training.

4.4 There was urgent need for the Council's initial work in sorting out vocational awards. In the early 1980s there were about 300 different awarding bodies, many of whom offered highly specific qualifications which held little prospect of progression to higher awards or transferability to different fields. The Council's work in bringing order to the jungle of qualifications has been widely welcomed. The matrix framework it has developed, arranging awards at five levels in 11 occupational areas, is shown in Figure 3,(page 18).

4.5 However there has been much less support for the Council's extension of its role from merely ordering vocational qualifications to imposing on them its own philosophy and insisting only qualifications which incorporate this philosophy would be recognised. In doing this the Council has been accused of exceeding its remit.

4.6 The cornerstone of the Council's philosophy, which owes much to TVEI, is loosely derived from behavioural psychology and argues it is what people can do that counts, their *competence*; what they know or understand can be inferred from what they do. The process by which they achieve competence is considered relatively unimportant as is the time they take to achieve it.

4.7 The classic example of the approach is the driving test. Here is an assessment of standards which everyone understands. It does not matter whether they have taken 200 weeks or 20 hours to achieve the standard required, nor does it matter whether they were taught by the British School of Motoring or their spouse. When people turn up to take the test they are not asked what they have learnt or how they have learnt it, they have to show what they can do. It is argued the same approach is entirely appropriate to vocational education which is essentially about successful performance in the workplace.

4.8 In NCVQ-approved qualifications there is specification of competencies; there is no listing of what has to be learned in the form of a

BOX D

NCVQ PHILOSOPHY

Dr Gilbert Jessup, Deputy Director NCVQ, intends that the NVQ and GNVQ framework will send "shock-waves through the whole system".

"We have turned the educational model on its head. Take a plumber. First you think of what a plumber needs to do, then you specify the functions and then you devise a training programme. No longer can second-rate educational courses stand in for the real needs of employers. The important things we learn in life are not done in classrooms.

"Nobody uses precisely the knowledge they have gained in A-levels or degree courses. It doesn't matter too much what you know, but you do need to show that you can operate at an intellectual level of reasoning. In vocational courses which are used for instrumental purposes, it matters more what you can do.

"The way that people learn is so important you cannot prescribe it. If some people learn from teachers standing up in front of a class and dictating, then that's all right, but not everybody does. I prefer to read and find out information for myself. The process of learning is important but people start from different places and react in different ways. So you have to allow for different modes."

He believes that vocational education in Europe achieves a high level of skills and academic attainment, not because the models are better but because people treat it more seriously: "We must start from more fundamental premises than replicating models. What worked for Germany or France would not necessarily work in the cultural climate of Britain."

programme of training or examination requirements. This lack of prescription is to give maximum flexibility. Teachers and trainers are allowed to do things in different ways and exploit the opportunities of their situation. Students are enabled to provide their own evidence of competence. Achieving comparability of standards in such circumstances, according to Dr Jessup, is "the challenge of flexible learning".

4.9 The knowledge and understanding necessary for competence are considered to be "embedded" in the list of "competencies" and their acquisition is inferred from the successful demonstration of "a competence". The core skills of "communication", "application of number" and "information technology" are said to be an essential part of any NCVQ qualification. But they are treated only as incidental to the development of other competencies. They are neither independently assessed nor assessed separately from the competencies. Thus, whether a plumber can calculate the necessary slope for a drain of particular length is inferred from how he installs a drain, not from whether he can do the necessary calculations.

4.10 NCVQ-recognised awards, incorporating this philosophy, are planned to rapidly replace existing vocational certificates and diplomas.

4.11 The NCVQ has brought much of its philosophy to the new General National Vocational Qualifications that Kenneth Clark, then Secretary of State for Education, asked it to devise in 1991. Intended as "vocational A-levels" these too have been drawn up and specified in terms of "learning outcomes to be achieved". Great emphasis is placed on flexible and student-centred learning. Students are mainly assessed on the basis of project work.

4.12 Although the NCVQ opposed any written external assessment of GNVQs, the Government has required such tests. But the assessments, made up of short-answer questions, do not count towards the actual award itself. Similarly although the NCVQ opposed any grading of results, the Government insisted on three grades being awarded: distinction, merit and pass. How these grades will be arrived at is still uncertain, but they may be based on "core skills", rather than the technical expertise itself.

FIGURE 3: NCVQ MATRIX

AREAS OF COMPETENCE / LEVEL	1	2	3	4	5
Tending animals, plants and land					
Extracting and providing natural resources					
Constructing					
Engineering					
Manufacturing					
Transporting					
Providing goods and services					
Providing health, social care and protective services					
Providing business services					
Communicating					
Developing and extending knowledge and skill					

Source: *Adapted from The NVQ Monitor, Autumn 1993*

4.13 NCVQ now dominates the entire field of technical and vocational education. There is evidence of tension between it and the traditional vocational awarding bodies, the Business and Technology Education Council (BTEC), City and Guilds of London Institute (CGLI) and the Royal Society of Arts Examinations Board (RSA), which have been forced to comply with NCVQ philosophy. However these organisations have felt themselves constrained in expressing dissent. Traditionally CGLI covered craft levels, BTEC, technician grades and RSA, clerical and secretarial areas, but a level playing field has been created on which all three organisations must compete. As they must now work as self-financing businesses dependent on NCVQ approval of courses, it is difficult for these organisations to oppose NCVQ without putting their own survival at risk. Increasingly, public money for youth training and other funding is only to be payable for awards recognised by the NCVQ.

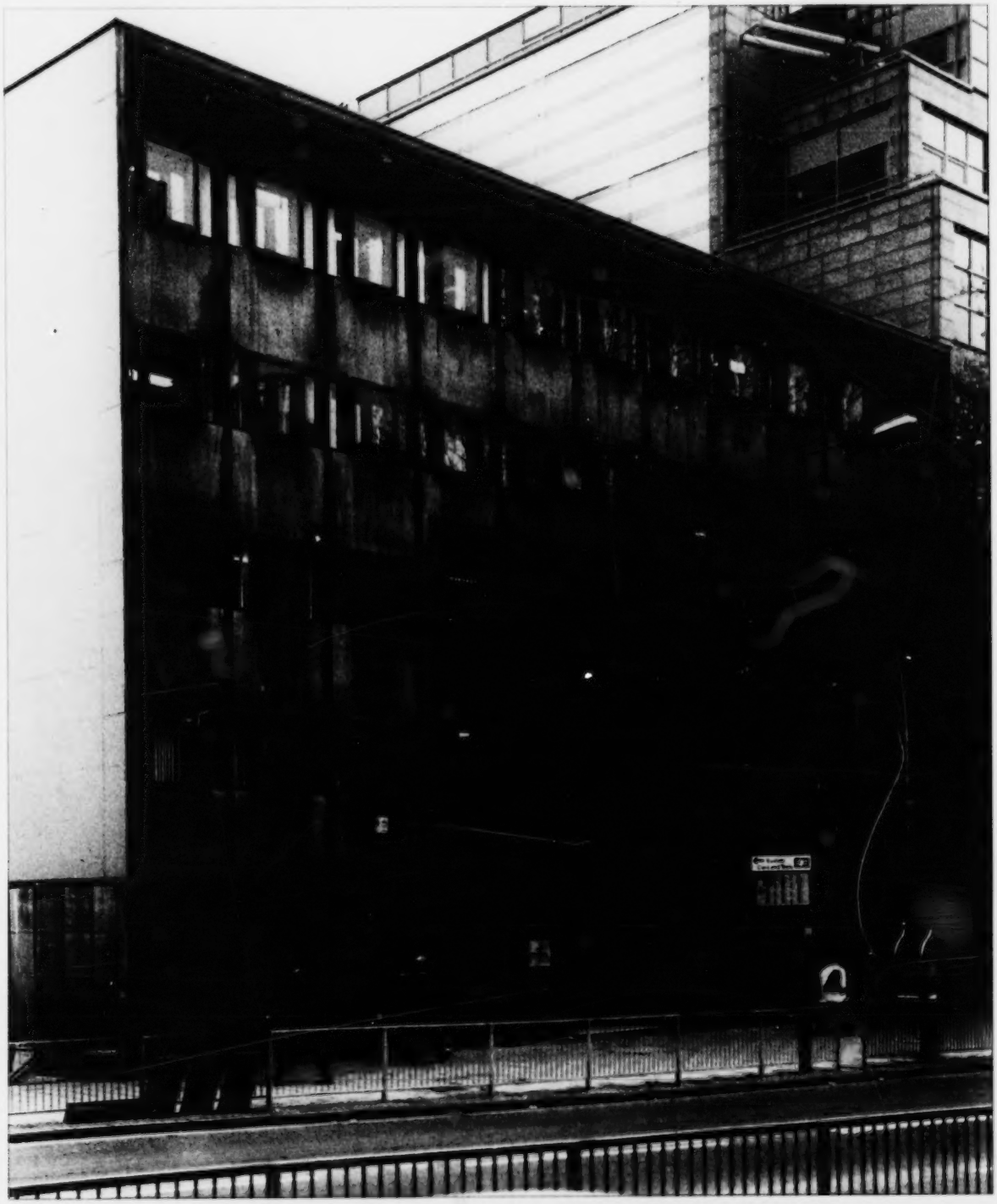
4.14 The pressure on the examining bodies to accept the NCVQ philosophy has been underlined by Government support for NCVQ. Last year when BTEC chairman Parry Rogers' criticised NCVQ and questioned whether BTEC could deliver quality education "if it is put within the skill-based straight jacket of NCVQ", the Department for Education made it clear both to him personally and BTEC that it must comply with NCVQ or put itself at risk.

4.15 In 1992/3 the NCVQ received a budget of £3.9 million from the Department for Employment, but by 1995/6 it is expected to be self-financing. It receives a levy for each certificate awarded.

4.16 The National Education and Training Targets and the need for the NCVQ to be self-financing are creating enormous pressures for ever-increasing numbers to receive NCVQ certification. The NCVQ is on a roller coaster which leaves little time for the proper implementation of awards.

4.17 In theory NCVQ is accountable to the Department of Employment for NVQs and the Department for Education for GNVQs, but it tends to fall between the two. In reality, the pressure on Government to meet its own targets means that there has been little inclination for it to challenge fundamentally NCVQ's over-riding philosophy.

4.18 Britain is therefore in danger of embarking on an education revolution affecting all our futures without proper debate. In order to provide the evidence for such a debate and help to promote it, the rest of this report will look in detail at the two new pathways based on NCVQ qualifications. It will compare the new qualifications both with what they are replacing and with equivalent pathways elsewhere in Europe.



• **The NCVQ now dominates the entire field of technical and vocational education: HQ in London's Euston Road.** *Padraig Boyle*

National Vocational Qualifications

5.1 In July 1993 the Secretary of State for Education, John Patten described National Vocational Qualifications or NVQs, as providing a qualifications pathway, mostly for those who had left full-time education, which would help them reach high levels of attainment[10].

5.2 NVQs are intended to provide practical education, knowledge and skills strongly related to specific tasks at work and are to be taken mainly by those at work. According to the 1991 White Paper[11] they are based on "up-to-date standards, set by employers, which define the knowledge and skills that people require in the workplace". They are designed to be a "guarantee of competence to do the job, not just in theory but in practice".

5.3 The National Council for Vocational Qualifications, which is responsible for NVQs, has set them up at five levels stretching from a foundation Level 1 to a Level 5 said to be equivalent to degree standard (see Figure 2, page 8). The job of drawing up NVQs at the various levels for individual occupations has been given to Employer Lead Bodies and Industry Training Organisations. There are currently 186 (although there is to be some attempt to draw them together into over-arching Occupational Standards Councils).

5.4 The function of these bodies is to list the tasks (called "competencies") candidates should be able to perform at any given level of NVQ. Because the theoretical knowledge required to carry out the tasks is said to be "embedded" in them, it is not independently tested. It is assumed if candidates can show themselves capable of performing a task, the relevant knowledge must have been acquired.

5.5 Whether or not candidates are capable of performing the specified tasks is assessed using any of a variety of evidence including workplace performance, simulated practical work, oral questioning or written examination. NVQ candidates work under trained supervisors who must decide when a candidate is ready to be assessed on any individual task and who choose how this is to be done. Written examinations can be used but are not compulsory and are rare. Assessments are checked by internal verifiers, external verifiers, principal verifiers and chief national verifiers.

5.6 The system is very flexible. There are no restrictions on access by age or training as with traditional apprenticeships. Account is taken of prior learning and candidates can build up unit credits as they progress. Even if they only complete part of a course, these credits will remain.

5.7 The system has been particularly praised for encouraging the training and re-training of adults in the workplace[12]. Those with no formal qualifications but long experience in an industry can be accredited on the basis of workplace assessment. Nevertheless, whatever their strengths, as presently constituted, NVQs are causing many problems.

5.8 Although according to the 1988 White Paper[11], NVQs are intended to reflect "up-to-date standards set by employers", it is doubtful whether they really do this. The employer lead bodies responsible for an occupational area are often in the hands of consultants when it comes to setting standards. NCVQ has drawn up lists of approved consultants that lead bodies may use for this purpose. Many of these consultants themselves lack real educational experience, having merely embraced NCVQ philosophy as a business opportunity. In consequence, NVQs are being designed and implemented along lines that are incomprehensible to most people The result is that few senior executives – however much they may support the system in principle – actually understand it.

5.9 Some senior executives, particularly those with experience of vocational education elsewhere in Europe, are expressing reservations. These often echo the criticisms of academics[14] who argue that even if NVQs, as presently formulated, are close to industry's current skill requirements, because these have been so narrowly defined, they are likely to fail industry in the longer term. Steedman and Hawkins, for example, have suggested that "by concentrating exclusively on occupational skills and omitting to build upon and extend trainees' capacities in mathematics and English, NVQs represent a retrograde step in the development of provision of vocational education and training for young people in Britain".

5.10 Steedman and Hawkins also argue that the NCVQ belief that students would respond to what is called "open learning", whereby they are encouraged to seek out information on the theoretical aspect of their craft themselves, is misguided. They conclude: "the assumption that such young people will be sufficiently motivated to investigate the theoretical side of their course during what they perceive as free time is not borne out in practice". To encourage individual responsibility for learning the NCVQ produced "NROVAs", grey plastic boxes which would hold a student's National Record of Vocational Achievement (hence their name), their NVQ logbooks and other evidence of competence. This was intended to encourage students to become involved in their own assessment procedures and to lead to greater motivation. The reality was different. NROVAs simply got lost. One NVQ instructor recalls: "I kept getting calls from the bus depot saying they'd found another of my grey plastic boxes. It was hopeless."

5.11 The problem is intensified by recent changes in the regulations concerning students funded by the Department of Employment's Training and Enterprise Councils. Under previous regulations, a trainee was entitled to 130 hours of off-the-job training: now even that requirement has disappeared. Although most trainees do pursue their NVQs partly at college, an NVQ could in theory, be acquired without the trainee ever leaving the workplace.

5.12 But it is not only the lack of theoretical content which is causing concern. Assessment procedures too are coming under criticism. Because there is no compulsory external testing, written or practical, assessment is done on a one-to-one basis by the student's own trainers. Although there is an extensive system of verification this can only be done on a random check basis.

5.13 The problem is made worse by the fact that because of changes in the way colleges are funded, they now have a financial incentive to pass their students whatever standards they reach. Colleges are now paid partly by results in a system called "outcome-related funding": it means, for example, that if they do not pass a student on Youth Training as having reached NVQ Level 2 in two years, they lose 25 per cent of that student's funding.

5.14 NVQs thus diverge fundamentally not only from previous British awards but from the established approach to vocational education here and elsewhere. Nevertheless there are some, including the Prime Minister and the CBI who defend the new system and say while there may be some initial difficulties, the NCVQ's concern with what trainees can do, rather than what they know, has taken Britain to the forefront of vocational education and is arousing world-wide interest.

5.15 To examine that proposition in detail, we have looked at how the new NVQ pathway serves two important groups of young people: those who want to become plumbers and those who want to become electricians. And we compare what is now on offer here, with what is available to their counterparts in Europe.

Domestic Problems

6.1 Almost everyone has a plumbing horror story. As we all know, having to turn to the *Yellow Pages* in an emergency is something of a nightmare. The Institute of Plumbing itself accepts the training of plumbers in the past has been inadequate. It recognises there has been insufficient incentive for plumbers to become properly qualified and argues that, in particular, they need greater understanding of electrical principles and more fault-finding skills to cope with the sophisticated systems being introduced.

6.2 Last year the City and Guilds course 603 for plumbers in craft and advanced craft certificates was replaced by National Vocational Qualifications at Levels 2 and 3 in plumbing. But there are fears that the change may not be for the better. In particular these relate to length and content. The City and Guilds certificate was normally achieved in three years, but the Training and Enterprise Councils will fund only for two years.

6.3 The City and Guilds course 603 involved, as well as practical assessment on simulated or on-the-job sites, five written assignments completed in four hours and two multi-choice examinations. The whole range of plumbing work as well as the underlying knowledge of physics, electronics, mathematics and technical drawing was tested. The 603 plumbing craft certificate contained a "Background to Technology" section which covered basic physical quantities, electricity and magnetism, forces, pressure, heat, thermal movement, energy, the principles of tool construction and materials technology, concepts in chemistry, applied chemistry and materials for industry.

6.4 None of the above is set out in the new NVQ Levels 2 and 3 and there are no compulsory written tests. Instead there is an attempt to correct what is perceived to be a flaw in the earlier City and Guilds courses of under-representing the testing of practical skills in work and over-representing theoretical aspects that were never likely to be used day-to-day. The skills of plumbing are listed, in the language of NCVQ, as "units", "elements" and "competencies". None of the units, elements or competencies is devoted to relevant scientific knowledge and understanding. Instead it is assumed to be embedded in the competencies. One lecturer in plumbing described the "scientific background" as being "buried" and "smothered by jargon".

6.5 In another departure from the City and Guilds course 603, NVQs demand "mastery learning", that is, in order to qualify, candidates have to demonstrate they can carry out *all* the plumbing tasks listed, or, in the language of NCVQ, demonstrate "100 per cent competence". It is argued that as the pass mark for written examinations in the City and Guilds course 603 was 40 per cent, this meant trainee plumbers only had to demonstrate "40 per cent competence". But as one lecturer puts it: "With City and Guilds we had pass, credit, and distinction to distinguish the really good students. With the new NVQs we have no indication of excellence. We must ask ourselves how competent is competent?"

6.6 Similar concerns were found among those responsible for the education of our future electricians. The present training for electricians, praised by Lady Thatcher when Prime Minister, is being replaced in January by NVQ Levels 2 and 3.

6.7 The existing scheme, the Joint Industry Board 1983 Electrician Apprenticeship, involves both practical and written examinations. The former, at the end of the first year, comprises an Achievement Measure Test (AM 1) of 13 practical tests taking ten-and-a-half hours over two days. Three are on safety topics, eight are on specific installation techniques, two cover inspection and testing. There is also a written examination set by City and Guilds. A second

• **Plumbers: will new NVQs match qualifications being phased out?** *Network*

Achievement Measure Test (AM 2), involving three-and-a-half days of problem-solving in simulated conditions and requiring a high level of technical understanding and skill, is taken at the end of training, which usually takes three-and-a-half years. It is accompanied by a further, advanced, City and Guilds written examination.

6.8 The system has been a considerable success. The Electrical Contractors' Association (ECA) believes it has overcome the problems of a fragmented industry by investing in a high standard of basic training and education. This has enabled qualified electricians to move easily and safely on to the more specialised needs of individual employers. They believe it is a system which has served Britain well.

6.9 From December 1993, the scheme will no longer meet the requirements of the National Council for Vocational Qualifications and funding for it will be phased out. Instead young electricians will have to take the new National Vocational Qualifications. The differences are highlighted in Box E.

6.10 There are two new NVQs for electricians, at NVQ Levels 2 and 3. The existing Joint Industry Board Electrician Apprenticeship is the equivalent of Level 3. The Electrical Contractors' Association is unhappy, on safety grounds, at trainees being given certification at a lower level of training than that which

BOX E

NVQs Compared with City and Guilds Craft Certificates

C & G framed as courses of particular length;
NVQs open-ended independent of course or time;

C & G incorporated a syllabus clearly defining technical knowledge to be covered;
NVQ has no syllabus but a list of "competencies" in which underpinning knowledge is assumed to be embedded;

C & G has higher requirements for technical expertise;
NVQs place more emphasis on working relationships, public relations and environmental matters;

C & G awarded on basis of practical and written examinations;
NVQs awarded on portfolios of evidence and have no compulsory written or final practical examination;

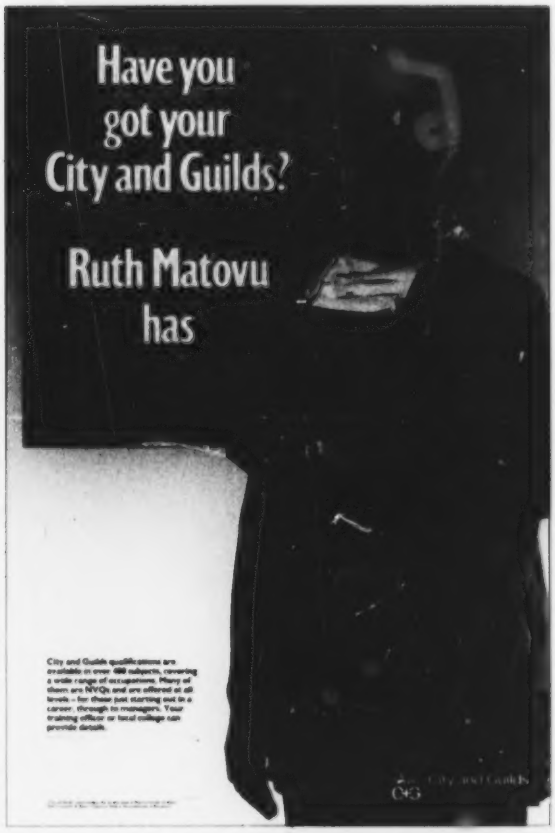
C & G offers passes, credit and distinction based on level of performance;
NVQ has only a pass based on the accumulation of sufficient units.

already exists. However despite their reservations, the Association has been forced to draw up the NVQ Level 2 in electrical installation, due to be introduced from January. The alternative would have been to forgo £10 million of public funding routed through the Training and Enterprise Councils.

6.11 The new NVQs, like all NVQs, are concerned only with the assessment of practical skills. There is no requirement for theoretical knowledge to be tested. In the NVQ Level 2, of the six units that define the NVQ qualification "Installing Electrical Systems and Equipment" only two are technical, and neither of these have anything like the detail of the former training scheme. The remaining four units are concerned with environmental matters, working relationships and public relations. None of these topics was covered in the former training scheme. The new NVQ Level 3 has a list of practical skills to be assessed which, in title, are very similar to those of Level 2. There is little to indicate the expected depth of treatment of topics.

6.12 It is widely feared among electricians that the new NVQ 2 will develop with nothing like the technical knowledge and installation skills provided by the present training scheme. It is also feared that many employers will be reluctant to fund training beyond NVQ 2, and that the skills base of electricians in this country will therefore be severely eroded.

6.13 There are also concerns that the insistence on work-based assessment in the new NVQ scheme will prove practically impossible and positively dangerous. The present training scheme works on the basis of simulated tests for fear of fatalities if trainees were allowed into "live" areas without sufficient understanding and experience. Good work-based assessment is expensive and, inevitably, the Electrical Contractors' Association believes, there will be fudges. They argue that "real understanding and written ability will be undervalued" if, as they fear, assessment is reduced to the ticking of boxes.



6.14 Although the new NVQ was due to have been piloted from September, it has attracted such opposition, that the employer lead body responsible for drawing it up has reached an impasse with the National Council for Vocational Qualifications. The lead body is demanding to be allowed – against NCVQ philosophy – to retain written tests and practical examinations. It is unlikely that the NCVQ will permit either to be made compulsory.

6.15 It is difficult to see how the new NVQs for either plumbers or electricians match the standards of the qualifications now being phased out to make way for them. It is difficult to see how NVQs will improve the quality of British plumbers or maintain the present quality of British electricians.

European Solutions

7.1 However serious the concern about whether NVQs will or will not improve vocational skills, it is important to remember the Government has given NVQs an even more ambitious and important task. They are one of the three pathways it is putting in place to help British young people attain greater educational success. In the Government's own words: "a key message is that although the three qualification pathways adopt different approaches, and encourage different styles of learning, they are all aimed at the same destination – high levels of attainment that will provide a firm foundation for further study or employment"[15].

7.2 Part of the Government's concern is the clear evidence of superior academic performance by young people elsewhere in Europe[16]. This feeds into higher vocational skills and productivity[17]. Have NVQs taken Britain into the forefront of vocational education, as is sometimes claimed? Will they allow us to catch up with the academic attainment of young people elsewhere in Europe?

7.3 With the help of researchers in Britain, Holland and Germany[18] the new NVQs for plumbers and electricians have been compared with the Dutch and German equivalents. Two specialists, Steve Stone, a member of the Institute of Plumbing and a lecturer at Bristol's Brunel College, and Cyril Golding, newly-retired Head of the School of Engineering in the North East Wales Institute, joined the research team and took part in observational visits.

7.4 In Holland, one of the most striking contrasts was in the number of national bodies responsible for vocational courses. Compared with the 186 in Britain, the Dutch have only 31. But they consider even these too many and are in the process of merging them and reducing the number to less than 15 for apprenticeship training and 19 for full-time vocational courses. They feel that any more than this and the resulting vocational awards will be too narrow to provide the broad academic, theoretical and occupational skills seen as essential for the future.

7.5 Equally striking is the approach taken even by the existing national bodies in laying down what is to be taught. In Germany there are about 250: one for each occupation. But the pressure for broader education here tends to come from the trade unions, social partners with employers on the boards. In Holland the content of vocational courses is set out in precise detail with much greater emphasis placed on the teaching of relevant academic subjects and theoretical knowledge. What it is the students are expected to learn – and the teachers to teach – is exemplified in textbooks specifically designed to accompany individual courses.

7.6 The standards demanded are, to British eyes, impressive. Plumbing apprentices follow a four-year course with one day a week in college and the other four spent in the workplace under qualified trainers. This compares with the two-year funding on offer to trainee plumbers in Britain. A group of Dutch apprentices, observed in their workplace during the first week of their training, were seen tackling advanced trigonometry.

7.7 The studies pursued even by trainee "assistant electricians" is equally ambitions. These courses are intended for those who have left school without qualifications and who will only qualify as assistants or *handimen*. The two-year full-time course includes 12 hours practical teaching a week, six hours on related theoretical studies, including metalwork and technical drawing *plus* two hours mathematics, two hours physics and two hours Dutch language.

7.8 The national bodies responsible for the content of the on-the-job part of vocational courses are also responsible for ensuring that it is properly taught. Companies taking on apprentices, who must have qualified trainers on their staff, are typically visited every five or six weeks.

The performance of trainees is closely monitored. Companies are checked to ensure they are providing the agreed training. Full-time college courses are typically visited five times a year by the Ministry of Education Inspectorate.

7.9 There is also an emphasis on traditional forms of assessment. Apprentice plumbers must sit four major written examinations and two long practical examinations. These are taken in a special national centre. Even assistant electricians face a ten-hour internally set examination.

7.10 Holland is working hard to improve its vocational education. Modularisation is being introduced into some courses and there are experiments with different forms of assessment. The driving force behind the changes is the belief that academic and theoretical knowledge along with occupationally-relevant training is becoming ever more important for all their young people.

7.11 In Germany, reputed to have the finest vocational education in Europe, it is a similar story. Apprentice plumbers get one hour a week of mathematics throughout their three-and-a-half year apprenticeship and face a final mathematics examination. They also study technology, technical drawing, and social and political studies. Special emphasis is placed on teaching plumbers electronics, seen as essential if they are to be able to correctly identify faults in ever-more sophisticated plumbing systems.

7.12 Apprentice electricians are expected, as part of a wide-ranging syllabus, to acquire substantial knowledge of technology and circuit techniques covering electrical power, control and electronics. Technical mathematics, although made relevant to practical work, is taught separately and to a high standard.

7.13 In Germany there is a stronger emphasis on traditional assessment techniques even than in Holland. Apprentice plumbers, for example, take four final written examinations and an externally - assessed practical examination. In some vocational courses, the Dutch are experimenting with alternatives to written examinations for those young people who have difficulty with them. In Germany it is believed all young people can reach the necessary level of literacy. Additional help is provided for those who find it difficult. The British move in abandoning written examinations is seen as incomprehensible in Germany.

BOX F

REGISTRATION

The Institute of Plumbing believes the poor quality of much British plumbing will not be improved until good, well-qualified plumbers are recognised and rewarded.

For 20 years the plumbers have fought for the sort of statutory registration scheme – backed by rigorous qualifications – which exists in virtually every other European country.

Yet when in 1991, with the support of an all party group of 40, they attempted to win legislative backing for such a scheme, the Government blocked it. It would, it was said, interfere with competition.

It was a decision which led some to suggest the Institute of Plumbing understood the root of British education more clearly than the Government.

7.14 One advantage enjoyed by Dutch and German teachers over their British counterparts is that students have a far greater motivation to succeed. In both Holland and Germany plumbers and electricians, as with most craft occupations, are required to register before they can set up in business, and registration depends on achieving the appropriate qualifications. The skilled workers' certificate is rewarded with higher pay. Vocational qualifications thus lead to both enhanced income and status. The Institute of Plumbing in Britain has for many years wanted to introduce a registration scheme to guarantee a professional service to the public, but its bid to obtain legislative backing for the scheme was blocked by the Government (see Box F). The Electrical Contractors' Association has also pressed for a licensing scheme.

7.15 The necessity – because of registration – to pass vocational examinations may help explain why the percentage of craftsmen with vocational

•Plumbing demonstration at Damland College, Zaandam, Holland.

BOX G.

STEVE STONE'S OBSERVATIONS

Padraig Boyle

"Both Holland and Germany are way ahead in the level of mathematics they expect from their plumbers. There are no specified mathematics requirements in the NVQ.

"I believe somebody can prove competence in a task without understanding what they are doing. But how will British plumbers cope with changes in technology, in the unusual, in the oddity, if they don't understand basic principles?

"The Government talks about transferable skills but education is the key to that. Plumbers should be learning basic principles, they should be specified clearly. Germany demonstrated the importance it places on that by devoting one hour a week to mathematics for three-and-a-half years of the plumbing apprenticeship with a separate exam at the end.

"In Holland plumbing apprentices are dealing with fairly demanding trigonometry within their first week of the course. We never even get on to trigonometry. In the 1950s and 1960s we did, but not now.

"We start our students off with the metric system of measurement, looking at the relationship of millimetres and metres. It's as basic as that.

"In Germany I was struck with the whole set up. The lecturer knows precisely what he has to do and he knows what a student has to achieve at the end of the day.

"The NVQ states a simple competence but gives no indication of the level of understanding that is required. Lecturers are working in the dark to some extent.

"In Germany employers are legally bound to provide a good standard of training. There is a firm contract to train which an apprentice can use to take an employer to court. It releases the college from the practical requirement and leaves it free to teach and demonstrate. If an employer cannot provide a certain aspect of practical training he has to pay for the student to go to a training centre which provides practical experience in a simulated form.

" We cannot rely on employers to give adequate training here because they are not necessarily qualified, trained or have the facilities. There is certainly no obligation on employers. The NCVQ cannot enforce its workplace requirement on employers."

BOX H

CYRIL GOLDING'S OBSERVATIONS

Padraig Boyle

"The British, Dutch and German systems all aim to produce electricians who have a good standard of practical competence and understand the technology relevant to their craft.

"The advantage of the continental systems is the agreement of the parties concerned (employers, trade unions, teachers) about the total education and training package and the requirement to hold the Certificate before being accepted as a qualified electrician.

"British companies are still reluctant to support college-based training schemes although they might be so small that they cannot provide the necessary learning experience for their young employees."

Mr Golding noted that German examination papers, although comparable with the City and Guilds examination papers now being phased out, required substantial knowledge of technology and circuit techniques – covering electrical power, control and electronics - and that technical mathematics, was taught separately but was directly related to the work of an electrician.

The German examination papers, however, contrast starkly with the NVQ in Electrical Installation currently being piloted. In NVQs, he said, there was no structured learning of technology at all. Trainees are supposed to provide some "evidence" that they have acquired theoretical knowledge but this requirement was set out in the broadest terms, "only calling for a superficial explanation to be given".

Moreover, unit specifications at NVQ Level 2 and 3 are similar in title and content – even identical in some cases – but with nothing to "indicate the depth of treatment of topics".

In addition, new elements had been added to both levels covering such things as "inter-personal relations" and "customer relations", which, without any increase in teaching time, further undermined the teaching of technical knowledge.

Mr Golding fears that as a result of the new NVQs, the depth of technical knowledge and understanding of the craft will suffer, resulting in a general decline in standards, putting us at a further disadvantage to our European partners.

•Class at Electrical Installation College, OSZ Berufsschule, Lichtenberg, Berlin.

qualifications in Holland and Germany is two to three times greater than in Britain". Nevertheless the research team found the practical and written examinations taken by trainee plumbers and electricians in Germany are not unlike those which are no longer to be compulsory in Britain. The written examinations apprentice plumbers sit are similar to the City and Guilds examination papers of five or ten years ago, although recently updated with more mathematics and electronics. The final written examinations taken by German apprentices specialising in electrical installation are not so different in level and standard from the old City and Guilds 236 paper. The Germans concentrate on multiple-choice questions while the City and Guilds paper required written short and long questions. However, German electricians are expected to cover a wider ranging syllabus as well as the separate section on technical mathematics.

7.16 The research team, however, found a stark contrast between the Dutch and German qualifications and the new British NVQs. Steve Stone's and Cyril Golding's analyses and comments are given in Boxes G and H (see pages, 28, 29). They believe, on the evidence, that in the past much vocational education in Britain, although undermined by lack of status and public support, still matched the standards of training in continental Europe. Like many of their colleagues, they are angry that these standards are being abandoned as they are forced to conform to an untried model which assumes that understanding can be inferred from a limited range of behaviours and that competence can be assessed by ticking a variety of boxes.

7.17 It is difficult to see how NVQs will improve the inadequate skills of our workforce. It is even more difficult to see how the Government's new pathway based on NVQs will raise educational attainment.

7.18 It might be argued that John Patten and the Department for Education are only paying lip-service to NVQs as an educational pathway and are wholly aware of their shortcomings, but are incapable of doing anything about them because NVQs, like the National Council for Vocational Qualifications, are the responsibility not of the Department for Education, but the Department of Employment. It is therefore important to look at the other new educational pathway John Patten has identified, that based on the vocational A-level, which is very much his responsibility.

General National Vocational Qualifications

8.1 In July 1993 the Secretary of State for Education, John Patten, described the new General National Vocational Qualifications as "vocational A-levels" and said they had an important role to play in raising levels of educational attainment in Britain.

8.2 GNVQs date from 1991 when the then Secretary of State for Education, Kenneth Clarke, gave the National Council for Vocational Qualifications (NCVQ) the job of devising new qualifications intended to provide a broad applied education, relating to one occupational area, which would prepare students either for immediate employment or for higher education.

8.3 The White Paper introducing the new qualifications reads as if the original intention behind GNVQs was to build on the success of the existing awards offered by the Business and Technology Education Council (BTEC). BTEC "Firsts", "Nationals" and "Highers" already provided a successful practical pathway. The number of students taking the full-time BTEC "National" Award, like A-levels giving access to higher education, had doubled since BTEC was established in 1983. A quarter of the successful candidates moved on to degree studies and another third to the BTEC "Higher National". BTEC "Nationals" were therefore becoming accepted as a practical alternative to A-levels.

8.4 Whatever the intention, GNVQs have emerged not as an up-grading of BTEC courses, but in response to the NCVQ credo, as something quite different (see Box I, page 32). Thus GNVQs:

- **Are specified in the form of modules set out as "elements", "performance criteria" and "range statements";**
- **Are largely awarded by teachers to their own students on the basis of evidence taken to indicate that these students have achieved the "outcomes" required;**
- **Are awarded to all who achieve the "outcomes" in this way, irrespective of the time taken, or the mode of learning adopted.**

The emphasis is on students discovering things for themselves, with teachers there to offer expert advice when it is needed. Many schools and colleges have created drop-in learning centres where students can work at their own pace through learning packages.

8.5 The approach has proved popular with students and some teachers. In September 1992, nearly 9,000 students began the first five GNVQs to be introduced: art and design, business, health and social care, leisure and tourism, and manufacturing. In September 1993, over 70,000 young people registered for GNVQs which included three new courses: the built environment, catering and hospitality, and science. A further six will be introduced in 1994.

8.6 The Government, like the National Council for Vocational Qualifications, has described GNVQs as a great success. Not all would agree with this. One leading academic, closely involved in monitoring the new courses from the inside, described them to the research team in very different terms. "The whole thing is ridiculous. There has been no proper evaluation of it whatsoever . . . all sorts of things have been changed on the hoof. It's a complete and total shambles." Whatever the truth, there are certainly problems. Problems which have not been communicated to either students or their parents.

BOX I

ADVANCED GNVQS AND BTEC "NATIONALS" COMPARED

BTEC units graded into pass, merit, distinction on overall performance which was helpful to employers and higher education; GNVQs to be graded on elusive qualities like performance in core skills so a GNVQ student with a distinction will not necessarily have a higher all-round performance;

BTECs incorporated work experience; this is not required in GNVQs;

BTEC units accompanied by guidance on required teaching hours; GNVQ units have no such guidance;

BTECs had no nationally-set written examinations with the resulting criticism that BTEC standards were variable; GNVQs modules have short-answer and multiple-choice tests set nationally;

Well-established BTEC "Nationals" in, for example, mechanical engineering and electrical engineering, covering the specialisms, to be replaced by a broad GNVQ in engineering.

8.7 GNVQs have no syllabuses. The examining bodies would like to have them. A senior representative told us: "We have had endless battles with NCVQ . The idea is that if you can do it, the knowledge is implied – but people are realising this is a little too simplistic. We have had a lot of spirited battles."

8.8 There is no list of what it is students should learn or teachers teach other than the "outcomes". Schools and colleges are free to invent what activities they see fit within a framework described in language many find obscure. Teachers are expected to create a reasonable and recognisable programme of study to achieve the criteria. Students are given log books to encourage them to take responsibility for their own learning, but many cannot understand the language in which the log books are written. Teachers with long experience of vocational education tend to solve the problem by continuing to teach what are basically the old BTEC courses. But schools coming to the new awards afresh are having particular difficulties.

8.9 Perhaps as many as 60 per cent of young people taking GNVQs would like to move on to higher education. They have been assured by the Government that the award will equal two A-levels and thus give them the possibility of doing so. Yet it is difficult to see how GNVQs prepare young people for higher education. Core skills defined as "communication", "application of number" and "information technology" are listed, but in the same obscure language that makes them all but incomprehensible (see Box J). They are not taught separately but are supposedly "embedded" in other elements of the course. They are not examined.

8.10 Commenting on the draft specifications for the science GNVQ, introduced in September 1993, the Institute of Physics, which had been involved in drawing up the specifications, said the way this had been done meant "students will not acquire the knowledge and understanding of physics required for direct entry in most physics-based courses in higher education". It expressed concern also at the low level of mathematical competence students would acquire. It said it was concerned that this too "will not be sufficient for entry into physics or engineering courses in higher education or to employment in physics-based or engineering industries".

8.11 The vocational areas present problems as well. The lack of a syllabus means teachers are left with a loose and poorly-defined framework within which they must decide what to teach. This means it is impossible for them to know whether they should concentrate on the central part of the framework – to the extent they are able to identify this – or try to cover it in its entirety. If they try to do the latter, the ground to be covered becomes vast. In its comments on the science GNVQ, the Institute of Physics said it was not possible to determine whether a selection was to be made from the "range" of themes or topics listed, or whether they were all to be taught.

BOX J

CORE SKILL OF "COMMUNICATION" FOR ADVANCED GNVQ

ELEMENTS

Take part in discussions with a range of people on a range of matters;

Prepare written material on a range of matters;

Use images to illustrate points made in writing and in discussions with people on a range of matters;

Read and respond to written material and images on a range of matters.

PERFORMANCE CRITERIA E.G:-

The contributions are expressed effectively for their purpose and are appropriate to the subject matter;

The fullness and accuracy of information included is appropriate to the the purpose and needs of the audience;

Images are used to support main points and others which the audience may have difficulty understanding;

Main points are accurately defined.

RANGE E.G:-

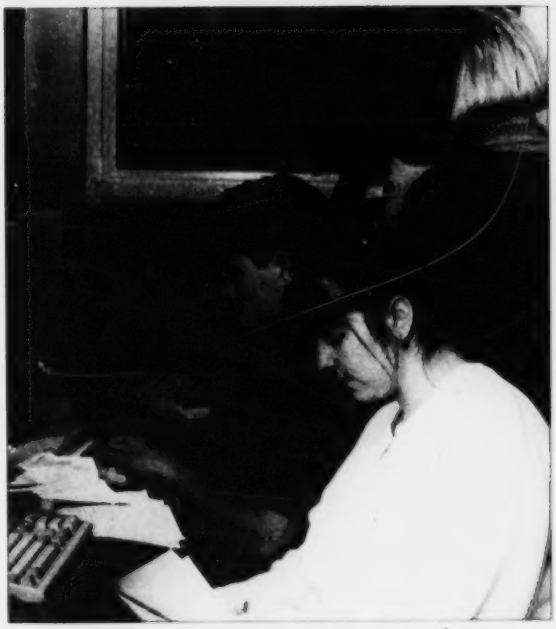
SUBJECT MATTERS:
routine

MODE:
face to face

FORMAT:
pre-set formats

IMAGES:
selected from those readily available in the context

AUDIENCE:
people familiar with the subject matter



• As many as 60 per cent of young people taking GNVQs would like to move on to higher education. *Padraig Boyle*

The latter, it said: "would represent an immense, concealed syllabus without any indication of the level of understanding required".

8.12 The assessment of GNVQs has exposed yet more problems. The NCVQ ideal of "mastery learning" means students are expected to have a record of achieving *all* the listed "learning outcomes". Assessments, as in the driving test, are therefore on a simple pass or fail basis. Yet because the NCVQ does not believe in defining courses, timing or content, it is very difficult for teachers to know exactly what the "learning outcomes" are supposed to be, let alone assess them.

8.13 The Government has insisted that GNVQs be awarded at the grades of distinction, merit and pass. But given the aim of "mastery learning" and the essentially pass-fail assessments, how the grades are to be arrived at remains uncertain. There is some suggestion that performance on the elusive embedded core skills is to be crucial but, exactly how, has not yet been specified.

8.14 Against the wishes of the NCVQ, the Government has insisted on GNVQ students sitting external tests. Although students must pass the tests if they are to gain the qualification, the tests do not count towards the qualification itself or the grade at which it is awarded.

8.15 The tests are drawn up by bodies like the Business and Technology Education Council, City and Guilds of London Institute, and the Royal Society of Arts Examinations Board which are responsible for individual GNVQs. These organisations have spent considerable sums of their own money designing tests to comply with the NCVQ's decision that for testing purposes each of the "learning outcomes" listed should become a "knowledge specification" and that one mark should be awarded for each.

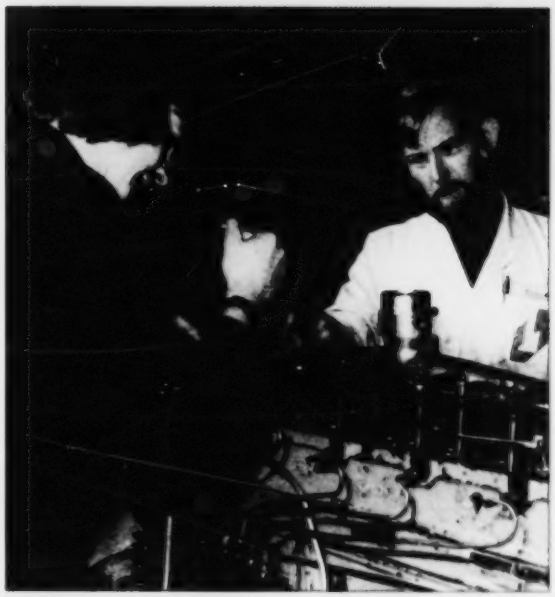
8.16 Some modules had 19 knowledge specifications while others as many as 37, but all papers lasted one hour. A GNVQ module Level 3 in art and design had 28, including one specification which covered the whole of the history of European art. The question chosen to test this concerned the painter Degas:

"Degas used unusual compositional principles especially in his paintings of horses at race meetings. Describe his motives for using these devices and state why they challenged the usual composition conventions."

Students had to write the answer in two minutes.

8.17 Although NCVQ, given its belief in "mastery learning", would have preferred a pass mark of 100 per cent, it compromised and settled for 80 per cent, now reduced to 70 per cent. Nevertheless in some modules there have been failure rates of 100 per cent among first-time takers.

8.18 In the Summer of 1993 NCVQ announced it was reforming the testing procedure. Tests are now to be based on "foci" not "knowledge specifications". Some modules, as the one above (8.16), will no longer be tested. The examining bodies, which had invested heavily in drawing up tests to meet the original NCVQ requirements, were so incensed they overcame their commercial rivalry and united to attack the Council for incompetence in having to change so radically so soon.



• BTEC "Nationals" in engineering to be replaced by GNVQ.
Barnaby's Picture Library

8.19 The Institute of Physics[7] warned the Government that the science GNVQ was not good enough to be introduced in September 1993. It said that "the launch of an ill-conceived scheme, even on a pilot basis, will have a seriously detrimental effect on the future standing of this important qualification". The Institute added that not the least of its concerns was for the students taking the new GNVQ; for them "it will not be a pilot exercise, it will be their only experience at a critical stage in their education and training". The science GNVQ went ahead as planned.

8.20 Yet, as with NVQs, the Government and the National Council for Vocational Qualifications, insist that despite the inevitable teething problems, GNVQs are attracting world-wide interest and taking Britain to the forefront of vocational education. To test this, the next section looks in detail at two GNVQs, the business GNVQ introduced in September 1992 and the engineering GNVQ due to be introduced in September 1994, and compares both with equivalent qualifications in Germany and France.

Applied Education at Risk

9.1 The business GNVQ, introduced in September 1992, has proved one of the least problematic of the new courses. Many teachers stress its continuity with the old Business and Technology Education Council "National" and continue to teach the units on business organisation, economics, law, general commerce, finance and accounts, and information technology in the same way they taught the BTEC "National"; using the old BTEC guidelines on courses and teaching hours – both absent from the new GNVQ.

9.2 But it does leave a gap regarding traditional secretarial courses. The GNVQ in business has not been designed for the very many young people who have learned secretarial skills while at school or full-time at college. They are still provided for by RSA awards but the intention is for these to be phased out and be replaced by NVQs. NVQs depend on assessment in the workplace. What will happen to the full-time school and college courses remains to be settled. Certainly no GNVQ is planned. The future of this important route from education to employment is in doubt at a time when business is ever-more reliant on keyboard skills.

9.3 Conversely, there are also concerns about whether the new GNVQs will be an adequate preparation for higher education. Emphasis on assessment through a portfolio of "evidence indicators", gathered by students through a series of projects, may be a poor preparation for university where most assessment will be on the basis of written examinations. General education is relegated to the elusive "core skills" and other embedded knowledge. Under the old BTEC "National", students wishing to go on to higher education could show their suitability by getting high grades in additional, optional units. This is not possible with the new GNVQ. Not only is there a more restricted choice of optional units, but unlike the old BTEC "National", individual units are not graded and are assessed on a simple pass-fail basis.

9.4 The proposals for the new engineering GNVQ, due to be introduced in September 1994, are far more questionable. The Engineering Council says the proposals represent a sharp reduction in the content of the present BTEC "National" which the new GNVQ will replace. The Council is particularly concerned about the lack of mathematics and physics, and suggests that students intending to go on to higher education should, for the time being at least, play safe by taking A-level mathematics in addition to the GNVQ.

9.5 The National Council for Vocational Qualifications has not so far allowed units to be devoted to separate subjects like mathematics and physics, which are supposedly incorporated into other parts of the course. BTEC, which is drawing up the engineering GNVQ, has rebelled against this and put in a module each on mathematics and science among the eight units all students must take. However there is no guarantee NCVQ will allow the units to remain. Commenting on the new engineering GNVQ, the Ford Motor Company has said it is "horrified" that the well-established system of BTEC "National" engineering courses is going to be replaced by GNVQs. It believes the new course could well fail both employers and the public. It adds: "Are we looking for different routes of progression, or easier routes? We should like to see a system where the children with a wide range of aptitudes get to the top of the mountain. But you don't achieve this by lowering the mountain. There has got to be theoretical as well as practical rigour."[26]

9.6 The business and engineering GNVQs, like all GNVQs, suffer from ambiguity of purpose. Are they to be primarily a route to higher education? If so, how are they to differ from, and what are to be their advantages over, equivalent A-levels? Or are they to be a better way of educating and training the technical and middle-range staff that BTEC awards, and their forerunners, the Ordinary and Higher National Certificates and Diplomas (ONC/D; HNC/D), traditionally served? It may be that in pursuing both aims GNVQs will achieve neither.

9.7 The fact that at best GNVQs appear to represent no improvement on existing BTEC "National" standards and at worse a significant reduction is only part of the problem. There are greater issues at stake. It is on GNVQs that the Government is pinning its hopes on helping our young people catch up with those elsewhere in Europe.

Lessons from Abroad

10.1 By 1996 the Government hopes a quarter of all young people will be taking General National Vocational Qualifications. Eventually it hopes around half will do so. It sees the new qualifications as the most important educational pathway of all in helping our young people match the educational attainment of their counterparts elsewhere.

10.2 To see how realistic these hopes are, the GNVQ in business and the proposed GNVQ in engineering have been compared with their equivalents in Germany and France. As with the comparison of NVQs, the research team was assisted by two specialists. In this case, Dr David Collier, Chairman of the National Association for Business Studies Education and Faculty Director of Business and Hospitality, Wakefield College, and Colin Whitfield, County Inspector for Design and Technology in Surrey.

10.3 In recent years, both Germany and France have established approved pathways as the British Government is attempting to do with GNVQs. It means in all three countries, young people who are not attracted by the traditional academic route are now offered an alternative vocational route to higher education or middle-range occupations.

10.4 An increasing number of German *gymnasium* (grammar schools) offer the *Abitur* (the German equivalent of A-levels) with specialisms in, for example, business studies and engineering. Although these give full access to higher education, they often attract young people who have under-performed at a traditional grammar school. The *Abitur* in business studies is much more popular than that in engineering. Approximately 12 per cent of young people choose such courses.

10.5 The content of the courses is set out in statutory documents drawn up by the local state authority *(Lander)*, advised by experienced teachers from schools and universities. The statutory documents set out the curriculum term by term. It is obligatory for all, in all its detail.

10.6 The German *Abitur* in business studies includes all the subjects covered in the mandatory units of the business GNVQ (business in the economy, business systems, marketing, human resources, employment, financial transactions, financial resources, business planning). However in addition to these, German students, unlike their British counterparts, also study German, English, mathematics, two science subjects, history or geography and a second foreign language. The course takes three years and students receive between 35 and 37 hours of teaching a week. GNVQs take two years and students spend approximately 15 to 20 hours. David Collier saw the advantages of the European approach (see Box K, page 38).

10.7 In Germany emphasis is placed on whole class teaching and direct instruction rather than "self-learning". Greater weight is attached to theory. Economics, particularly, is taught to a much higher level.

10.8 Assessment too is very different. Although a substantial proportion of the final grade is derived from written examinations taken over the three years in eight to ten subjects, students must choose the four they wish to major in, and sit final three-hour examinations in three of them (including business studies in the business *Abitur)* and take an oral examination in the fourth.

10.9 The *Abitur* in engineering is organised in a similar way. But it differs from the new engineering GNVQ in one other important respect. Great emphasis is placed on students acquiring basic practical skills. In their first year, students spend seven lessons a week in workshops operating machines like traditional lathes. It is seen as an essential part of their course. Teachers argue it teaches precision and perseverance and a feel for materials. In Britain, similar lathes have been thrown out of schools because they were considered obsolete. This is something Colin Whitfield commented on particularly (see Box L, page 39).The German students move on to

• Using the lathe, OSZ Maschinen und Fertigungstechnik, Berlin.

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BOX 8

David Collier's Observations

Padraig Boyle

"GNVQ places considerable burdens on lecturers especially with regard to course design, materials preparation, and recording and documentation. This is significantly reduced in the case of the French and German systems (where textbooks and worksheets are provided locally or nationally).

"GNVQ grading policy is based on only a third of work in the portfolio being up to the standard of a particular grade, whereas the French and German schemes generate the results through final examination – these are not used for GNVQ grading purposes."

Through his observation of business teaching in France and Germany Dr Collier recommends:

THE NEED FOR A BROAD-BASED CURRICULUM (GENERAL EDUCATION);

MORE CLARITY IN CONTENT AND DEPTH OF VOCATIONAL SUBJECTS;

GREATER RIGOUR IN ASSESSMENT WITH A CLOSER RELATIONSHIP BETWEEN GRADING AND ALL FORMS OF ASSESSMENT;

A NEED FOR UNIT-BASED GRADING TO HELP PROGRESSION TO HIGHER EDUCATION;

A MORE BALANCED APPROACH TO DELIVERY WITH THE NEED FOR MORE FORMAL TEACHING;

AN APPRAISAL OF WHETHER THE SPECIFICATIONS ACTUALLY MEET THE NEEDS OF HIGHER EDUCATION.

He adds:
"In trying to satisfy two markets – employment-related training and higher education preparation – the GNVQ may be in danger of not achieving either very effectively."

industrial and computer-numerically-controlled machines in the second and third years.

10.10 Given the much higher academic standards reached by students following the German vocational *Abitur*, it is surprising that hardly more than 20 per cent of successful students go to university. The great majority move instead into apprenticeships, both in business occupations and engineering, although some move on to university after completing these. Significantly more British students taking GNVQs would be expected to go to university.

10.11 However impressive the German equivalent to GNVQs, the French situation provides an even crueller lesson for Britain. One equivalent to vocational A-levels in France is the *baccalauréat technologique* which provides a technical alternative to the classic *baccalauréat général*. It is usually taken by young people from less favoured backgrounds who have not got on to an academic *baccalauréat* course, and is widely accepted to have helped bring about a significant improvement in their performance[27]. Like GNVQs it is intended for people who wish to move on to higher education. Yet French educationalists[28] who know both systems and have followed the introduction of GNVQs, reject the idea that they could realistically be compared with the *baccalauréat technologique*.

10.12 As with the German vocational *Abitur*, the content of *baccalauréat technologique*, also a three-year course, is set out in great detail. There are both business studies and engineering versions. In business studies, a second-year student would typically follow a 33-35 hour weekly timetable consisting of about 20 hours of specialist lessons (economics, law, commercial administration, management, communication and applied information technology) and 14 hours of general education (French, history/geography, a modern foreign language and mathematics). The contrast between the GNVQs and the engineering *baccalauréat technologique* is even sharper. Here the emphasis on academic subjects is even more pronounced. The mathematics and physics requirement ranges from between six and 14 hours a week depending on whether a student is majoring in mechanical engineering or electronics. This is in addition to the 17 hours

BOX L

COLIN WHITFIELD'S OBSERVATIONS

Padraig Boyle

"In both Germany and France 16 to 19-year-old students spend longer and work harder on their education. On the technical side the Germans especially place a great deal of value on it, with well-equipped workshops and a great deal of time being spent in workshop practice, even with a highly academic course like the *Abitur* in mechanical engineering.

"Both the Germans and French far surpassed the British on the amount and level of mathematics demanded of technical *Abitur* and *baccalauréat* students. In the *baccalauréat technologique*, for example, the mathematics and physics requirement is for between 6 and 14 hours a week, depending on whether the student will major in mechanical engineering or electronics."

He believed that the specification drafted by BTEC for an engineering GNVQ did not bode well. The skills and knowledge to be taught were not sufficiently defined; practical work was under-represented ("there is only one reference to realising a product in the whole thing – we have too many theoretical engineers in this country who cannot make things, in Germany they come up through the making route"), and the mathematical requirement was low ("there needs to be additional calculus").

He believed it was not useful to suggest that more mathematics could be gained by taking A-level: "A-level maths is not necessarily a good qualification for engineering. We need more maths, taught separately, but geared towards engineering."

spent on specialist subjects with their own theoretical content. It is accepted in France that no serious study in technology can take place without substantial and explicit coverage of mathematics and physics.

10.13 Those French educationalists who have looked at GNVQs consider them as inappropriate as a preparation for higher education *of any kind*. For this reason they say GNVQs can only really be compared with the *baccalauréat professionnelle*, the *"bac pro"*, a vocational course which is intended to prepare young people for work.

10.14 Yet comparing the new GNVQs to this qualification, with its much more modest ambition, is revealing. Many of the students starting the two-year *"bac pro"* course already have a preparatory vocational qualification. Compared with the 15 to 20 hours of GNVQ courses, *"bac pro"* students have between 29 and 35 hours of lessons a week. About 14 hours are spent on vocational and technical subjects including two hours of mathematics which, although linked to the vocational subject, is taught separately. There are also four hours of French, three hours of a modern foreign language, two hours of contemporary studies and two hours of art. There is also an optional three hours on keyboard skills. Students have to sit nationally set written examinations.

10.15 There seems little doubt the French *"bac pro"*, despite its more modest ambitions, is not only broader but also more rigorous than the new GNVQs. It is worrying therefore that while in France it is felt under five per cent of those achieving the qualification are fitted for higher education, at least 60 per cent taking the much less intensive British GNVQs are thought likely to want to go.

10.16 Compared with the comparable qualifications of our continental neighbours, GNVQs appear lightweight, ideology ridden and weak on general education. European experience is that theoretical and academic learning is a vital complement – not a distraction – to vocational studies. While Britain moves away from formal academic and theoretical studies in vocational education, elsewhere they are placing even greater emphasis on them.

Leading or Falling Behind?

11.1 There are some, including the Prime Minister, the CBI and the National Council for Vocational Qualifications, who are proud of Britain's recent achievements in vocational education. With NVQs and GNVQs, they say, with one bound we have broken free both of the chains of an elitist educational system which served the academic few and the chains of time-serving training which narrowed minds and opportunities. The new vocational qualifications, they believe, have a form and structure to encourage and give credit for practical achievement. The qualifications vouch for what people can do. They are flexible, accessible and can be tailored to individuals and particular circumstances. They are attracting world-wide interest and are being considered by New Zealand and Eastern European countries as a means of reforming their own vocational education and training.

11.2 But they are also very odd. At its simplest, an education or training programme consists of a statement of what is to be learned and how it is to be assessed. NVQs and GNVQs have neither. Their content is set out as a broad and fuzzy framework of "performance criteria" and "range statements" and students accumulate "evidence indicators" of their "competence". The one award can therefore mean very different things according to who has taken it, where it has been taken, what evidence has been brought forward and who has assessed it. Rigour has seemingly been sacrificed to flexibility.

11.3 NCVQ claims to set great store by assessment. Much has been made of "the driving test" as a model. But a crucial difference is that whereas obtaining your driving licence depends on satisfying *an independent examiner*, NCVQ assessment is carried out by the very people supervising you. It is as if your British School of Motoring instructor was also your examiner. Moreover with the system of payment by results that the Training and Enterprise Councils are introducing, it is as if your instructor would only get paid if he or she passed you.

11.4 Other countries are also keen to make their education more practical, but they make no bones about:

- **Specifying what is to be learned, and arriving at this through agreement between employers, trade unions and educators;**
- **Authorising textbooks which exemplify the content;**
- **Recognising that students have to be taught and not assuming that students will discover everything they need to know for themselves;**
- **Providing curriculum development support for the teachers;**
- **Setting standards through external examinations;**
- **Ensuring a mix of general education and vocational education.**

11.5 Other European countries have another advantage too. They insist that young people must become properly qualified before they can register as self-employed or set up a business in a particular occupation. The way anyone can practise as a craftsman or technician in Britain, regardless of whether or not they have any qualifications, is unthinkable elsewhere. Registration, at the same time as it protects the public, encourages young people to become properly qualified. The European approach has much to recommend it.

• **Comparing the business GNVQ and business studies *Abitur* at the OSZ Handel, Berlin.**

11.6 It is true the new vocational qualifications in Britain, particularly GNVQs, are proving popular. They appear to meet a need: GNVQs for people who wish to continue in education but for whom GCE A-levels are unsuitable; NVQs for those who have not previously had recognition for what they can do or a transferable qualification. However, their popularity should not mask their numerous deficiencies.

11.7 The great fear is that they will turn out to benefit neither the students themselves nor the country. By being qualifications that students can cope with rather than what is required for successful and adaptable performance, NVQs and GNVQs run the risk of merely occupying the time of a lot of people. This itself is not without some point in a situation where there are not enough jobs to go around. But if the time is available for more education and training it would be better if it were spent wisely to raise skill levels, increase understanding, and improve all our lives.

11.8 There is no evidence that NVQs and GNVQs are raising vocational skills and educational attainment. Indeed our analyses and comparisons suggest the reverse. The recent report [7] from the Office of Her Majesty's Chief Inspector of Schools on the introduction of GNVQs in schools is severely critical. For the best of motives, and from a romantic and impractical idealism, NCVQ seems to be perpetrating a disaster of epic proportions.

RECOMMENDATIONS

To provide an education for everyone and enable the country to compete effectively in world markets, the essential challenge is to design an employment-related education which incorporates skill training but also provides a foundation for an unknown future. Unless NVQs and GNVQs do open doors to getting jobs and progressing in them and unless they are a platform for further learning they will never come to have the same standing as GCE A-levels, and claims to equivalence will be dismissed as rhetoric.

Our analysis of what is currently happening in the name of vocational education in Britain in comparison with what previously existed, what other countries do, and what is needed, leads us to suggest the following as a possible course of action starting from where we are now.

The immediate need is for the awarding bodies like BTEC, City and Guilds and RSA to be allowed to draw up syllabuses to specify in detail what is to be learned and what is to be assessed so that there is some common point of reference for the students, teachers and examiners which is open to inspection and debate.

In the longer term, say by September 1996, a restructuring should take place.

WE RECOMMEND:

- ***That*** **the NCVQ should be reconstituted so as to better reflect the views of employers, employees, educators and the general public;**
- ***That*** **it should be made clear to whom NCVQ is accountable;**
- ***That*** **the NCVQ, in this new and more answerable form, should be responsible for:**
  - **– the general framework of vocational qualifications,**
  - **– drawing up the requirements for NVQs and GNVQs and ensuring courses meet these requirements,**
  - **– inviting bids from the awarding bodies to draw up assessment arrangements for the courses,**
  - **– ensuring comparability between the assessment arrangements of different awarding bodies;**
- ***That*** **as a matter of priority, the new NCVQ, with the Government, should decide the purpose of GNVQs: are they primarily intended to provide improved training for technicians and other similar occupations (which is how the BTEC "Nationals" originated) or are they intended primarily as a preparation for higher education?**

- *That* once this is decided, the detailed content of NVQs and GNVQs be decided by employers, employees and educators working together in Occupational Councils, perhaps 20-30 in all, to be formed from the merging of the existing bodies and the strengthening of their membership by, among others, experienced teachers;

- *That* the content of NVQs and GNVQs should consist of an appropriate mix of skills , knowledge and understanding aimed at developing *both* vocational capability *and* educational achievement;

- *That* NVQs and GNVQs should respond to employers' needs for developing literacy and numeracy, and not sideline them as in the present so-called "core skills";

- *That* in setting out the new content of NVQs and GNVQs, the schematic framework of "performance criteria" and "range statements" be superseded, and that course requirements be more simply and directly stated;

- *That* the assessment of both NVQs and GNVQs should include written examinations as well as assessments of practical skills, independently set with marks externally verified;

- *That* with both NVQs and GNVQs, examining for award purposes must be independent of teaching, especially since schools and colleges are partly paid by results;

- *That* appropriate back-up and training be available for teachers, including curriculum support and work experience;

- *That* trade and professional bodies be encouraged to set up registration schemes based on the possession of relevant NVQ or GNVQ qualifications;

- *That* until new arrangements can be put in place, NCVQ should extend the conditional recognition given to awards of bodies like BTEC, CGLI, and RSA and others, like the Construction Industry Training Board, and should build on their experience in improving vocational education.

NVQs and GNVQs can – just as the Government hopes – be used to improve both the vocational skills *and* educational attainment of our young people. But they must be freed from the professional jargon that has smothered them, significantly improved and properly identified as important directions of future policy and future competitiveness.

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CHANNEL FOUR TELEVISION

Published in 1993 by Channel 4 Television
60 Charlotte Street, London W1P 2AX
ISBN 1 85144 084 4
Produced for Channel 4
by Broadcasting Support Services
in association with the Centre for Education and Employment Research, University of Manchester, to accompany
Dispatches: All Our Futures:
Britain's Education Revolution
(an Interbase production for Channel 4), first shown in December 1993.

Senior Commissioning Editor: David Lloyd

Written by Professor Alan Smithers:
Centre for Education and Employment Research, Manchester University
Principal Researcher: Elaine Williams

Editor: Derek Jones
Editorial Consultant: Elizabeth Sturgeon
Design: BfG+i, London
Cover Photographs:
Top and bottom right, Padraig Boyle
Bottom left, Barnaby's Picture Library
Printer: Windsor Print
Distributed by Broadcasting Support Services

Publication and distribution of the Report financed by the Gatsby Charitable Foundation

Broadcasting Support Services is an educational charity, which runs helplines and provides follow-up services for viewers and listeners.

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PUBLICATION AND DISTRIBUTION OF THE REPORT FINANCED BY THE GATSBY CHARITABLE FOUNDATION
ISBN 1 85134 084 4

4
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47